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The Devil May Be in the Details: How the Characteristics of SCHIP Programs Affect Take-Up

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The Devil May Be in the Details: How the Characteristics of SCHIP Programs Affect Take-Up

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Abstract

In this paper we explore whether the specific design of a state's Children's Health Insurance Program has contributed to its success in meeting two objectives—namely, has the program been successful in reducing the proportion of the targeted population that is uninsured, and has this been accomplished without a significant reduction in private coverage (that is, without crowd-out)? To answer these questions, we use three years of data (1998, 1999, 2000) from the Current Population Survey. We focus on the eligible population of children, broadly defined as those living in families with incomes below 300 percent of the federal poverty line. Our research identifies eliminating tests on assets, making phone lines available for those with questions about eligibility or enrollment, and expanding coverage to adults in low-income families as program characteristics that contribute to meeting both of these goals.

The Devil May Be in the Details:
How the Characteristics of SCHIP Programs Affect Take-Up

INTRODUCTION

In 1997, the U.S. government created a new program to increase health insurance coverage among children: the State Children's Health Insurance Program, or SCHIP, which was included as part of the 1997 Balanced Budget Act. The program was directed to children living in low-income families who were not eligible for Medicaid. Beginning in 1998, $4.275 billion was appropriated in matching funds to states under this program, for which the federal government pays a larger share than it does for Medicaid. In FY 1999, fewer than 2 million children were enrolled in SCHIP at any point during the year; the number increased to 3.3 million in 2000 and about 4.6 million in 2001.[1]

States have a great deal of discretion in designing their SCHIP programs. They can expand Medicaid, set up a separate program or combine the two programs, set eligibility levels,[2] decide whether to use presumptive eligibility, set requirements for the time that a child must be uninsured before becoming eligible, and establish application procedures more generally. Four states obtained waivers that enabled them to also extend benefits to parents.

Two issues have been of interest to policy analysts: Has the program been successful in reducing the proportion of the targeted population that is uninsured, and has this been accomplished without a significant reduction in private coverage (that is, without crowd-out)? States designed programs that differed in many dimensions, for example, eligibility criteria, Medicaid expansion or not, outreach, and constraints on prior coverage. In this paper we explore whether the specific design of a state's program

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[1]The figure was 3.8 million for children ever enrolled in the second quarter of 2002; it represents an increase of more than 20 percent over the same quarter in 2001 (Centers for Medicare and Medicaid, 2003).

[2]Program designers had children in families up to 200 percent of the federal poverty line (FPL) in mind, but states were free to extend benefits up to 50 percentage points beyond the state's 1997 Medicaid eligibility levels. In 2000, eligibility levels ranged from 133 to 300 percent of the FPL (GAO, 2001). Additional criteria for eligibility include not being eligible for Medicaid and being younger than 19 (unless a waiver is granted to extend benefits to adults).

has contributed to its success in meeting these two objectives; we pay most attention to the first objective. In our analysis, we use three years of data (1998, 1999, 2000) from the Current Population Survey. We focus on the eligible population of children, broadly defined—those living in families with incomes below 300 percent of the federal poverty line (FPL). After a brief review of the literature, we describe our estimation approach and the data. The core of our analysis is followed by a discussion of policy conclusions. Details of state programs are provided in Appendix A.

Background

In 1997, according to CPS data, 15 percent of all children in the United States (10.7 million children) were uninsured all year, including 23.8 percent of all children (3.36 million) living in poor families.

Nancy-Ann DeParle, an administrator in the Health Care Financing Administration in the Clinton administration, described the broad outlines of the SCHIP program in testimony before the Senate Finance Committee on April 29, 1999 (<http://www.cms.hhs.gov/schip/testm429.asp>).

> The CHIP program was created through the bipartisan Balanced Budget Act of 1997 to address the fact that nearly 11 million American children—one in seven—are uninsured and therefore at significantly increased risk for preventable health problems. Many of these children are in working families that earn too little to afford private insurance on their own but too much to be eligible for Medicaid. Unfortunately, the number of uninsured children has been rising. The number of uninsured children rose from 8.2 million in 1987 to 10.6 million in 1996—from 13 percent to 16 percent of all children. The number of children covered through their parents' employer-based plans is also down, from 67 percent in 1987 to 59 percent in 1995.
>
> Congress and the Administration wisely agreed to set aside $24 billion over five years, beginning in fiscal 1998, to create CHIP—the largest health care investment in children since the creation of Medicaid in 1965. These funds cover the cost of insurance, reasonable costs for administration, and outreach services to get children enrolled. To make sure that funds are used to cover as many children as possible, funds must be used to cover previously uninsured children, and not to replace existing public or private coverage for children who already have coverage. Important cost-sharing protections also were established so families would not be burdened with out-of-pocket expenses they could not afford.

> The statute sets the broad outlines of the program's structure, and establishes a partnership between the Federal and State governments. States are given broad flexibility in tailoring programs to meet their own circumstances. States can create or expand their own separate insurance programs, expand Medicaid, or combine both approaches. States can choose among benchmark benefit packages, develop a benefit package that is actuarially equivalent to one of the benchmark plans, use the Medicaid benefit package, or a combination of these approaches. Of the 982,000 children enrolled at the end of 1998, about 540,000 were in separate State programs and about 442,000 were in Medicaid expansions.
>
> States also have the opportunity to set eligibility criteria regarding age, income, resources, and residency within broad Federal guidelines. The Federal role is to ensure that State programs meet statutory requirements that are designed to ensure meaningful coverage under the program.

The success of SCHIP has been explored in terms of the proportion of children enrolled in public health insurance programs (both Medicaid and SCHIP) and the proportion of low-income children eligible (see, for example, papers by Dubay and colleagues, 2001, 2002, from the New Federalism project of the Urban Institute). But to our knowledge, no existing papers have addressed the important policy question of whether the characteristics of state program designs have systematically influenced the success of the program in increasing the proportion of eligible children enrolled and decreasing the proportion of such children without health care coverage. We attempt to do so below.

Existing Literature

A few papers have attempted to describe the choices made by a limited number of states. For example, the U. S. General Accounting Office (GAO) studied how enrollment policies influence take-up in 10 states (GAO, 2001). Kronick and Gilmer (2002) asked if the state public insurance programs of four states influenced the coverage of adults and examined the extent of crowd-out of private coverage. Pavetti, Maloy, and Schott (2002) explored the “promising practices” of a set of local welfare offices in 15 sites across the country in increasing enrollment and retention in both the Food Stamp and public health insurance programs. The report focused on the type and especially the site of outreach and the ease of application for benefits for the entire family.

LoSasso and Buchmueller (2002) used CPS data for 1996–2001 to address the overall success of SCHIP programs in increasing the coverage of children, the income level of the families most responsive to SCHIP, and the groups among which the greatest crowd-out of private insurance occurred. Their study used differences in timing and the details of expansion in coverage to measure any increase in coverage and the extent of crowd-out. All children were included in their estimates, as were state dummy variables and year dummies, but no differences in state SCHIP policy except insofar as they determined the eligibility of each child.

The study found that the introduction of SCHIP caused a small increase in public coverage—a take-up rate of 5–10 percent—but that perhaps as much as 20 percent of this increase in public coverage was offset by a decline in private coverage. The authors speculate on the role of policies designed to minimize crowd-out, such as waiting periods and premium payments, both of which are included in our analysis.

STATE SCHIP AND MEDICAID PROGRAMS: DIFFERENCES AND SIMILARITIES

Income Thresholds

Since the inception of the SCHIP legislation, states have experimented with different mixes of income thresholds and program characteristics. The programs that have emerged represent, in most cases, a large increase in the availability of health insurance for low-income children. Although states vary widely, an average level of coverage appears to be emerging, with an upper limit of 200+ percent of the FPL for all ages from 0 to 18. In 1998, when states were introducing SCHIP programs, 14 states began at that level of coverage. By 2000, about half of the states were operating programs that had a threshold of 200 percent of the FPL applicable to some age groups.

Of the remaining states, half currently have eligibility thresholds that are below 200 percent of the FPL, and half above. Some states operate programs with far less generous thresholds; North Dakota,

for example, funds SCHIP coverage for infants only up to 140 percent of the FPL, a mere 7-percentage-point increase over the federally mandated coverage level for infants under Medicaid. Some have far higher thresholds (New Jersey covers children and families with income up to 350 percent of the FPL), or have abandoned income requirements, instead basing eligibility for coverage on a parent's ability to obtain employment-based health insurance (for example, Tennessee and Massachusetts). A few states have used SCHIP funds simply to supplement already high levels of coverage. Minnesota, for example, before SCHIP used state funds under a Section 1115 Medicaid waiver to cover children up to 275 percent of the FPL but used SCHIP funds to increase coverage for infants to 280 percent of the FPL.

Although all groups of low-income children have benefitted from the availability of Title XXI money, older children have clearly gained the most. Under Medicaid before SCHIP, the eligibility threshold for 15- to 18-year-old children was determined according to a formula which was based on 1996 AFDC income eligibility levels. This resulted in state-specific thresholds for older children which were as low as 12 percent of the FPL in Louisiana, with a median value of 51 percent of the FPL. Under SCHIP, the lowest state threshold in 1998 was 100 percent of the FPL, and by 2000 this had increased to 133 percent of the FPL, so that many more older children were eligible for publicly subsidized health insurance. In Louisiana, formerly the worst case, the eligibility threshold for older children under SCHIP was 133 percent of the FPL in 1998, and this was further increased in 1999 to 150 percent of the FPL.

Many other states also raised their thresholds over the period of study. Fifteen states that had SCHIP programs in 1998 had raised the thresholds of those programs by 2000. The average increase (median, and modal value) for older children from 1998 to 2000 was 50 percentage points (the mean value was 52 points). For instance, New York raised its threshold from 192 percent of the FPL in 1998 to 250 percent of the FPL in 2000, a 58-percentage-point increase. Texas implemented a larger increase, raising the threshold for older children from 100 to 200 percent of the FPL.

Although this paper does not address the underlying motivation for policy developments that affected state SCHIP thresholds, the expanded coverage for all children is substantially clear. States have also expanded coverage for families, in the hope that by doing so they offer parents a greater incentive to enroll their children. Twelve states currently provide coverage to families with incomes below 150 percent of the FPL.[3]

Other Requirements

Income eligibility aside, the characteristics of SCHIP programs are increasingly consistent across states. Although the particulars of program administration differ, when states are compared along broad lines such as "Does the program require face-to-face interviews?" the programs appear increasingly similar. In 2000, 47 states (including the District of Columbia) had no face-to-face interview, and an increasing proportion required no asset test for Medicaid or SCHIP. As a study for the Kaiser Family Foundation (Ross and Cox, 2000) pointed out, however, there were a few states like Montana and Texas that had not aligned the requirements for Medicaid and SCHIP enrollment, so that the Medicaid program required a face-to-face interview and an asset test, but the SCHIP program did not.

Fewer states have implemented presumptive eligibility, by which children who appear qualified are admitted to the program while their application is completed and processed. In 2000, only six (Massachusetts, Michigan, Nebraska, New Jersey, New Mexico, and New York) did so.

States have also taken other steps to increase outreach and ease of application. All states except Tennessee and Washington accept applications by mail or fax. Thirty-six states have dedicated phone lines over which staff will answer questions about enrollment and assist with the completion of applications. Others provide Web sites that are family-oriented and designed to provide information to

[3]The states are: CA, CT, DC, ME, MN, NJ, NY, RI, TN, VT, WA, WI. See Broaddus et al. (2002) and Krebs-Carter and Holahan (2000).

potential and current program participants. Six states use community organizations to conduct outreach and enrollment activities.

These policies, along with increased income eligibility limits, have in theory greatly expanded the availability and ease of access of public health insurance. The questions we pose are: Do these differences influence the take-up of coverage, and do they reduce the proportion of the population without coverage? To answer the questions, we use the state-by-state differences described here with individual data from the Current Population Survey.

DATA

CPS data for the years 1998, 1999, and 2000 are the basis for the analysis. These are collected in March and report information about health insurance coverage for the preceding calendar year (that is, in March 1999 respondents reported their coverage for 1998). Individual data include socioeconomic information, such as the age of the child and parent(s) and the child's race/ethnicity and sex, the number of children in the family, the education and marital status of the parents, whether the family moved to the current state or received welfare benefits in the last year, and the income of the family relative to the official poverty line. The data also include employment: whether the parent has a work limitation, whether a second parent works, and if so, if it is full or part time.

In addition, we include characteristics of the SCHIP plan in the state of current residence: whether the state plan covers families; whether the state uses presumptive eligibility; the number of months without private coverage required for eligibility; whether there is an asset test; whether there is a premium for parents of this income; and what outreach activities exist.

We use two subsamples from the CPS for each year: (1) those children who lived in families with incomes below 300 percent of the FPL and (2) those who were eligible for either the Medicaid or SCHIP program in the state in which they lived.[4]

The first group consists of those whose insurance status might be expected to be influenced by its availability. Do the public policies in the state make it more likely that they have (1) any form of coverage, (2) private coverage, or (3) public coverage? This is our larger sample, approximately 15,000 children per year (14,797 in 1998, 16,203 in 1999, and 15,680 in 2000). We limit ourselves to this income group because children in higher-income families are not likely to be influenced by policies toward public coverage but might instead be influenced by other changes in a state—for example, the changing cost of coverage—that might distort our understanding of the importance of policies influencing the success of SCHIP among the targeted population. This larger sample is employed to address the overall important questions of whether SCHIP has increased coverage and what policy characteristics seem to be most effective in increasing public coverage and in minimizing any reduction in private coverage.

Our second sample is composed of those who, we estimate, are eligible for coverage by Medicaid or SCHIP in the state in which they live. We attempt to determine how successful different policies are in promoting take-up of a benefit for which those in this sample are eligible. This is our smaller or take-up sample; it contains approximately 9,000 children per year (8,953 in 1998, 9,377 in 1999, and 8,775 in 2000). This sample is used to explore the plan characteristics that maximize take-up; it may also suggest program characteristics that are largely ineffective and might be eliminated to reduce costs.

Table 1 shows the means and standard deviations for the larger sample for each of the three years. In 1998 we estimate that only 38 percent of the children in this sample were eligible for SCHIP,

[4]We do not include observations from Tennessee because the CPS does not provide sufficient information on private health insurance availability to determine whether a child meets the TennCare criterion of lacking access to private health insurance.

Table 1
Means and Standard Deviations for Private Health Insurance and Uninsured Model Sample

	1998		1999		2000	
Variable	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Individual and Family Characteristics						
Parent's age	34.06	8.78	34.17	8.71	34.40	8.80
Child's age	7.84	4.93	8.07	4.95	8.10	5.00
Child has fair or poor health	0.04	0.19	0.04	0.19	0.03	0.18
Child is nonwhite	0.25	0.43	0.23	0.42	0.24	0.43
Child is Hispanic	0.33	0.47	0.36	0.48	0.36	0.48
Family lives in MSA	0.77	0.42	0.76	0.43	0.76	0.43
Male child	0.51	0.50	0.51	0.50	0.52	0.50
Most educated parent has HS diploma	0.35	0.48	0.36	0.48	0.35	0.48
Most educated parent has some college	0.36	0.48	0.37	0.48	0.38	0.49
Family moved to the state within the last year	0.04	0.20	0.05	0.21	0.04	0.19
Number of siblings	1.66	1.32	1.64	1.33	1.67	1.37
Child is eligible for SCHIP	0.38	0.49	0.46	0.50	0.49	0.50
Poverty ratio	1.09	0.67	1.20	0.68	1.24	0.70
Received welfare benefits at some time in last year	0.16	0.37	0.13	0.33	0.11	0.31
Employment Characteristics						
Parent has a work limitation	0.12	0.32	0.11	0.32	0.10	0.31
Married parents	0.52	0.50	0.55	0.50	0.55	0.50
Primary worker with some full-time work	0.71	0.45	0.76	0.43	0.77	0.42
Primary worker with some part-time work	0.11	0.31	0.10	0.30	0.10	0.30
Secondary worker with any work	0.23	0.42	0.27	0.44	0.27	0.44
Some full-time work at a firm with 100 or more employees	0.36	0.48	0.38	0.49	0.58	0.49
State and Program Characteristics						
SCHIP separate program * SCHIP eligible	0.08	0.27	0.11	0.31	0.10	0.31
SCHIP combination program * SCHIP eligible	0.21	0.41	0.20	0.40	0.29	0.46
No SCHIP program	0.09	0.29	0.02	0.13	--	--
MA threshold equal across age groups.	0.08	0.26	0.08	0.27	0.07	0.26
State covers families with income < 150% FPL	0.03	0.18	0.06	0.24	0.10	0.30
State uses presumptive eligibility	0.17	0.37	0.16	0.37	0.17	0.37
No face-to-face interview required	0.94	0.23	0.94	0.23	0.95	0.22
Parents must pay premiums for SCHIP * SCHIP eligible	0.21	0.41	0.26	0.44	0.28	0.45
No. months with no private insurance required * SCHIP eligible	0.88	1.76	1.34	2.28	1.48	2.44
No asset test	0.95	0.21	0.98	0.15	0.98	0.15
Family-oriented website * SCHIP eligible	0.30	0.46	0.39	0.49	0.41	0.49
Phone line staff will answer questions about applications * SCHIP eligible	0.27	0.45	0.34	0.47	0.36	0.48
Community organizations used for outreach * SCHIP eligible	0.12	0.33	0.14	0.34	0.14	0.34
No. months SCHIP program has been in operation	7.50	4.46	18.90	5.27	30.86	5.51
Local or state unemployment rate	5.02	2.61	5.02	2.64	4.36	2.11
Parents must pay premiums for SCHIP * SCHIP eligible	0.51	0.39	0.55	0.50	0.55	0.50
No. months with no private insurance required * SCHIP eligible	2.30	2.26	3.02	2.84	3.07	2.81
Family-oriented website * SCHIP eligible	0.77	0.42	0.81	0.39	0.82	0.38
Phone line staff will answer questions about applications * SCHIP eligible	0.68	0.47	0.70	0.46	0.69	0.46
Community organizations used for outreach * SCHIP eligible	0.26	0.44	0.25	0.43	0.26	0.44
N	14,797		16,203		15,680	

whereas by 2000 nearly half of the children in the sample are estimated to be eligible. Similarly, the proportion of children who lived in states without an SCHIP program declined from 9 percent to zero as all states introduced a program over the three years. The variable, number of months the SCHIP program has been in operation, increased from 7.5 on average in 1998 to nearly 31 in 2000. From 1998 to 2000, the proportion of these children receiving welfare benefits declined from 16 percent to 11 percent, a trend consistent with the trend in adult welfare participation following the 1996 welfare reform legislation, the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA).

More than 70 percent of these children had a parent who worked full time, and more than half of these parents worked at firms with more than 100 employees (firm size is a proxy for the likelihood of working for a firm that offers insurance coverage). More than half of the children had married parents. Some 8 percent of the children lived in states in which the Medicaid threshold for eligibility was the same for children of all ages, and nearly all lived in states that had no asset test and did not require a face-to-face interview. But only about 17 percent lived in states that used presumptive eligibility.

Table 2 shows means and standard deviations for the smaller sample eligible for Medicaid or SCHIP.[5] Twenty-eight percent were eligible (only) for SCHIP in 1998; the proportion increased to 38 percent in 2000. The majority of those eligible only for SCHIP lived in states with separate SCHIP programs (18 percent in 1998, 24 percent in 2000, with a dip in 1999). The slight majority of those eligible only for SCHIP paid a premium for coverage; we expect this factor to reduce take-up, which was 51, 55, and 55 percent, respectively, in each year.[6] Only a small percentage lived in states which covered family members, in addition to children, up to 150 percent of the FPL (3, 5, and 8 percent, respectively, in each year); we expect this component to increase take-up among families and hence among children.

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[5]This is derived from algorithms we develop based on eligibility criteria including child's age, family income, state countable income definitions, and overall income limits of the state.

[6]For children living in families with incomes above 150 percent of the FPL, states are permitted to impose premiums, deductibles, or other cost-sharing on a sliding scale; these may not exceed 5 percent of the family's income.

Table 2
Means and Standard Deviations for Model Variables, Public Health Insurance Take-Up Sample

	1998		1999		2000	
Variable	Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
Individual and Family Characteristics						
Parent's age	33.99	9.82	33.73	9.63	34.06	9.73
Child's age	7.70	5.06	7.80	5.07	7.73	5.08
Child has fair or poor health	0.05	0.22	0.05	0.22	0.04	0.20
Child is nonwhite	0.36	0.48	0.34	0.47	0.33	0.47
Child is Hispanic	0.30	0.46	0.32	0.47	0.33	0.47
Family lives in MSA	0.82	0.39	0.80	0.40	0.80	0.40
Male child	0.51	0.50	0.52	0.50	0.52	0.50
Most educated parent has HS diploma	0.35	0.48	0.35	0.48	0.36	0.48
Most educated parent has some college	0.28	0.45	0.30	0.46	0.30	0.46
Family moved to the state within the last year	0.05	0.21	0.05	0.22	0.04	0.20
Number of siblings	1.65	1.39	1.62	1.40	1.72	1.52
Child is eligible for SCHIP	0.28	0.45	0.34	0.47	0.38	0.49
Poverty ratio	0.88	0.62	0.98	0.65	1.02	0.67
Received welfare benefits at some time in last year	0.25	0.43	0.20	0.40	0.18	0.38
Employment Characteristics						
Parent has a work limitation	0.14	0.35	0.14	0.35	0.14	0.35
Married parents	0.41	0.49	0.45	0.50	0.47	0.50
Primary worker with some full-time work	0.59	0.49	0.66	0.48	0.66	0.47
Primary worker with some part-time work	0.14	0.34	0.13	0.34	0.13	0.34
Secondary worker with any work	0.15	0.36	0.19	0.40	0.20	0.40
Some full-time work at a firm with 100 or more employees	0.27	0.44	0.29	0.45	0.45	0.50
State and Program Characteristics						
SCHIP separate program * SCHIP eligible	0.05	0.23	0.07	0.25	0.07	0.26
SCHIP combination program * SCHIP eligible	0.18	0.38	0.16	0.37	0.24	0.43
No SCHIP program	0.06	0.23	0.02	0.14	--	--
MA threshold equal across age groups.	0.03	0.18	0.04	0.19	0.03	0.18
State covers families with income < 150% fpl	0.03	0.18	0.05	0.22	0.08	0.27
State uses presumptive eligibility	0.14	0.35	0.15	0.36	0.14	0.35
No face-to-face interview required	0.97	0.17	0.97	0.18	0.97	0.17
Parents must pay premiums for SCHIP * SCHIP eligible	0.16	0.37	0.20	0.40	0.22	0.42
No. months with no private insurance required * SCHIP eligible	0.65	1.50	0.87	1.76	1.00	1.94
No asset test	0.98	0.15	0.98	0.12	0.99	0.12
Family-oriented website * SCHIP eligible	0.24	0.43	0.29	0.45	0.33	0.47
Phone line staff will answer questions about applications * SCHIP eligible	0.20	0.40	0.24	0.43	0.28	0.45
Community organizations used for outreach * SCHIP eligible	0.09	0.29	0.10	0.30	0.11	0.31
No. months SCHIP program has been in operation	7.83	4.21	19.40	5.14	31.42	5.31
Local or state unemployment rate	5.15	2.83	5.21	2.89	4.48	2.26
N	8,953		9,377		8,775	

The average number of months without private insurance as a condition of eligibility was 2.3 in 1998, increasing to a bit more than 3 months in 1999 and 2000. Only about 14 percent lived in states with presumptive eligibility, a factor likely to lead to an increase in those enrolled in public coverage, if only briefly. Few children lived in states that required a face-to-face interview, a policy that would increase the time costs of enrollment and hence decrease take-up. About 80 percent of the children lived in a state that has a family-oriented Web site. A staffed phone line is somewhat less common—somewhat fewer than 70 percent lived in such a state. A far smaller proportion, about 25 percent, lived in a state that used community organizations for outreach.

RESULTS

How Have Program Differences Influenced the Probability That Children Are Uninsured?

We begin by estimating simple multivariate probit equations for whether children who lived in families with incomes below 300 percent of the FPL (our larger sample) were without any coverage (neither public coverage—Medicaid or SCHIP—nor private coverage) for each year. Next we run a similar probit with a different dependent variable: whether this same population had any private coverage over the year (see Appendix Tables 1 and 2).

Demographic and health variables. Children who were older, had older parents, were nonwhite or of Hispanic origin, and had moved to the current state of residence within the last year had a higher probability of being uninsured all year. In contrast, children who had poor or fair health, a parent with more schooling or with a work limitation, or lived in a family with higher income, had a reduced probability of being uninsured. Presumably, both health variables suggest greater known need for health care and more experience with the health care system. The work status of a child's parents was also associated with the probability that a child was uninsured, though perhaps in a somewhat unexpected way: children in a home where the primary worker was a full-time worker were more likely to be without

coverage unless the worker was employed at a large firm. In this latter case they were more likely to have coverage.

Program and policy characteristics. The policy variables of primary interest are those that describe a state's SCHIP program. In 1998, children in states without an SCHIP program were far more likely to be without any health care coverage than children living in states with a program. Beyond this, the structure of the program—whether it was combined with Medicaid, was a separate program, or was some combination—was consistently associated with the probability that a child lacked coverage. In 1999 and 2000, eligible children living in states with a separate program were significantly less likely to lack coverage than eligible children living in states with either a combination of programs or one run together with Medicaid. Children living in states with an SCHIP program that also covered adults were less likely to be without coverage; in 1999 and 2000 the variable was statistically significant.

We briefly examine other program factors:

- There is some indication that the probability a child lacked coverage was lower if a state had no *asset test*, though this was significant only in 2000.
- A *consistent threshold* for the Medicaid program across all children, regardless of age, did not appear to significantly reduce the probability that a child in a multichild family lacked coverage.[7]
- *Presumptive eligibility* was associated with a lower probability that a child lacked coverage, but only in the first two years of our analysis. In the early years of a program, presumptive eligibility may be more important than it is once significant numbers of children are enrolled in the program. The evidence that the longer the program has been in place, the lower the probability that children living in families below 300 percent of FPL lack coverage seems consistent with the results for presumptive eligibility.
- *Requiring a face-to-face interview* was not associated with the probability that a child was uninsured among this population, most likely because very few states required such an interview.
- Surprisingly, the regulation regarding months that a child must have been *without private coverage* in order to be eligible for SCHIP was not related to the probability that a child lacked coverage.

[7]The empirical evidence shows a reversal between 1998 and 1999 and no statistical significance in 2000.

- *Requiring a premium payment* for the SCHIP program was not consistently associated with an increase in the probability that a child was uninsured; only in 1999 did this program factor appear to reduce coverage.

Outreach programs. The program most consistently associated with a reduced probability that a child lacked coverage was a phone line at which staff answered questions about applications. A family-oriented Web site was significant only in 1999. The use of community organizations for outreach was not associated with a decrease in the probability that a child lacked coverage; perhaps surprisingly, there is some suggestion that in the early years such outreach was counterproductive, though perhaps such programs were set up where there were more uninsured children.

How important might these program and outreach characteristics be in increasing the probability of coverage? We simulate the expected probability of being without coverage for the CPS population of children living in families with incomes below 300 percent of the FPL in Table 3a. In 1998, these children had, on average, an 11.6 percent probability of being without coverage.[8] But in a state that had a standard threshold for Medicaid eligibility, offered family coverage, used presumptive eligibility, required no face-to-face interview, set the period required to be without coverage at only 6 months, and had no asset test, the probability of being without coverage would be 5.4 percent, or less than half that of children living in an "average state," according to our simulations. The biggest program factor in our simulation for 1998 was presumptive eligibility, which we expect would reduce the probability of being without coverage from the average 11.6 percent to 8.6 percent. Our simulations also suggest that offering family coverage would reduce the probability of being without coverage to 9.3 percent, a reduction of about 20 percent.

In our simulations for 1999, these children had a probability of being without coverage of 13.5 percent. In this case, the package of SCHIP program policies we described above is expected to reduce the probability of being without coverage to 10.7 percent, or by slightly more than 20 percent compared

[8]The simulation uses mean values of all other variables based on the 2000 sample.

Table 3a
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics on Probabili
of Being Uninsured All Year for 1998, 1999, 2000

	Probability of Being Uninsured All Year		
Scenario	1998	1999	2000
No changes (base = variables set at mean values for 2000)	0.116	0.135	0.141
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility, no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.054	0.107	0.110
Even threshold only	0.095	0.167	0.135
Family coverage only	0.093	0.111	0.116
Presumptive eligibility only	0.086	0.106	0.137
No face-to-face interview only	0.115	0.135	0.142
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.096	0.111	0.131
Current employment with all FT workers at 100+ employee firm	0.103	0.121	0.133
Other Demographics			
Nonwhite child	0.133	0.178	0.152
2-year-old child	0.107	0.120	0.121
10-year-old child	0.118	0.141	0.147
16-year-old child	0.128	0.158	0.170
Parent with some college	0.099	0.119	0.104

Table 3b
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics among SCHIP Eligibles on Probability of Being Uninsured All Year for 1998, 1999, 2000

	Probability of Being Uninsured All Year		
Scenario	1998	1999	2000
No changes (base = variables set at mean values for 2000, SCHIP elig set to 1)	0.117	0.139	0.118
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility, no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.057	0.103	0.092
Even threshold only	0.096	0.172	0.113
Family coverage only	0.094	0.114	0.096
Presumptive eligibility only	0.087	0.110	0.115
No face-to-face interview only	0.117	0.139	0.120
All SCHIP eligible in states with family web	0.116	0.135	0.141
All SCHIP eligible in states with phone line	0.117	0.131	0.138
All SCHIP eligible in states with community org. outreach	0.133	0.142	0.139
All of the above	0.135	0.134	0.135
SCHIP Medicaid expansion	0.106	0.122	0.072
Separate SCHIP program	0.127	0.140	0.136
Combination SCHIP program	0.111	0.152	0.133
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.098	0.115	0.109
Current employment with all FT workers at 100+ employee firm	0.105	0.124	0.112
Other Demographics			
Nonwhite child	0.159	0.183	0.129
2-year-old child	0.130	0.123	0.101
10-year-old child	0.143	0.144	0.124
16-year-old child	0.153	0.162	0.144
Parent with some college	0.120	0.123	0.086

Simulations are calculated as follows: Means for all variables from the 2000 sample are multiplied by the coefficients from the model for each individual year. The sum of these products for a given year is then run through the cumulative normal distribution to get the base probability for that year. Simulations are then made by varying the mean value for a variable or variables to match the assumptions for a given scenario.

to a child in an average state. However, if we consider only presumptive eligibility, the probability of being without coverage dropped to 10.6 percent, about the same level that resulted from the full set of program changes. Offering only family coverage was also associated with a relatively large change—to 11.1 percent.

For 2000, our simulations indicate that 14.1 percent of children who lived in families with incomes below 300 percent of the poverty line were without coverage all year. If they lived in a state with the favorable program package described above for 1998, the expected probability of being without coverage would be 11 percent—a reduction of 22 percent compared to a child in an average state. Our simulations suggest that the eligibility factor with the greatest impact was living in a state that offered family coverage; this reduced the expected probability of being without insurance in 2000 to 11.6 percent. Consistent with the probit results, and in contrast to the results for 1998 and 1999, presumptive eligibility did not significantly reduce the probability that a child was without coverage in 2000.

Outreach programs. We limit the sample in this case to those eligible for public coverage only, since we should not expect these outreach programs to influence other children (see Table 3b). The only outreach program that seems to be consistently associated with a reduction in the probability that a child is uninsured is a phone line that provides information on eligibility. Otherwise, the use of outreach seems associated with higher probabilities of being uninsured, although this may represent reverse causality.

Do SCHIP Program Characteristics Influence Crowd-Out?

Do the program characteristics of state SCHIP programs affect crowd-out, or the replacement of private by public coverage? To answer this question we first run a probit equation for each of the three years on the larger sample of children, those living in families with incomes below 300 percent of the FPL. These results are in Appendix Table 2.

Demographic and health variables. Children who were eligible for SCHIP were less likely to have private coverage, and children living in families with more income relative to the FPL were more

likely to have coverage. Both findings are consistent with an expectation that children living in families with more resources are more likely to be privately insured. Children who had a parent working full time were more likely to have private coverage, especially if their parent worked for a large firm, a proxy for working for a firm that offers employee coverage. Children who lived in a family where a second parent worked were also more likely to have health insurance coverage.

Program and policy characteristics. Eligible children living in states in which SCHIP was a separate program were more likely to have private coverage than those in states with a Medicaid program; living in a state with a combined program was associated with private coverage only in 2000. No plan characteristic appears to be significantly associated with a reduced probability of private coverage over the three years. In 1999 and 2000, however, no face-to-face interview and, somewhat surprisingly, premiums for SCHIP were associated with a lower probability of having private coverage. For 2000, the SCHIP requirement of a longer period without private coverage was associated with an increase in the probability of having private coverage. For both 1998 and 2000, living in a state with family SCHIP coverage was associated with a *higher* probability of having private coverage than living in a state with a child-only program. The asset test was not related to the probability of having private coverage in all three years.

State outreach. Interestingly, outreach for SCHIP was not associated with a decrease in the probability that a child had private coverage; rather, having a family-oriented Web site or a staffed phone line to answer questions were associated with an increase in the probability of coverage—perhaps by providing accurate information to families with children in these families below 300 percent of the FPL.[9]

In Table 4a we show the simulated probabilities that children in families with incomes below 300 percent of the FPL have private coverage. The base probability for these children is 51.7 in 1998, 46.5 in 1999 and 42.3 in 2000, on the basis of mean values for all variables as of 2000, but using the coefficients

[9]Only in 1999 and 2000 is there evidence of this positive association for family-oriented Web sites.

Table 4a
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics on Some Use of Private Health Insurance for 1998, 1999, 2000

Scenario	Probability of Some Private Health Insurance 1998	1999	2000
No changes (base = variables set at mean values for 2000)	0.517	0.465	0.423
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility, no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.604	0.455	0.421
Even threshold only	0.501	0.449	0.409
Family coverage only	0.582	0.475	0.448
Presumptive eligibility only	0.552	0.459	0.403
No face-to-face interview only	0.514	0.462	0.419
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.609	0.543	0.504
Current employment with all FT workers at 100+ employee firm	0.546	0.495	0.448
Other Demographics			
Nonwhite child	0.433	0.383	0.359
2-year-old child	0.506	0.458	0.398
10-year-old child	0.520	0.467	0.431
16-year-old child	0.530	0.473	0.456
Parent with some college	0.581	0.525	0.513

Table 4b
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics among SCHIP Eligibles on Some Use of Private Health Insurance for 1998, 1999, 2000

Scenario	Probability of Some Private Health Insurance 1998	1999	2000
No changes (base = variables set at mean values for 2000, SCHIP elig set to 1)	0.527	0.486	0.411
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility., no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.620	0.480	0.420
Even threshold only	0.512	0.470	0.397
Family coverage only	0.592	0.497	0.437
Presumptive eligibility only	0.562	0.480	0.391
No face-to-face interview only	0.525	0.483	0.408
No even threshold	0.518	0.466	0.424
No family coverage	0.509	0.464	0.420
No presumptive eligibility	0.510	0.466	0.427
Only face-to-face interview	0.564	0.516	0.492
SCHIP Medicaid expansion	0.580	0.514	0.447
Separate SCHIP program	0.508	0.483	0.418
Combination SCHIP program	0.522	0.469	0.359
All SCHIP eligibles in a state with a program	0.524	--	--
No SCHIP program	0.516	--	--
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.619	0.564	0.492
Current employment with all FT workers at 100+ employee firm	0.557	0.517	0.436
Other Demographics			
Nonwhite child	0.444	0.403	0.348
2-year-old child	0.517	0.480	0.386
10-year-old child	0.531	0.488	0.419
16-year-old child	0.541	0.494	0.445
Parent with some college	0.591	0.546	0.501

Simulations are calculated as follows: Means for all variables from the 2000 sample are multiplied by the coefficients from the model for each individual year. The sum of these products for a given year is then run through the cumulative normal distribution to get the base probability for that year. Simulations are then made by varying the mean value for a variable or variables to match the assumptions for a given scenario.

for each specific year. The factors we simulate as a package—even Medicaid thresholds across children, family coverage, presumptive eligibility, no face-to-face interview, a six-month eligibility time frame, and no asset test—raised our simulated probability of private coverage to 60.4 for 1998, an increase of approximately 17 percent. The single policy associated with the biggest increase in the simulated probability of having private coverage was family coverage, which had an expected probability of 58.2, an increase of about 12.5 percent.

In 1999, an offer of family coverage was the only simulated policy that would increase the probability of insurance, from an overall prediction of 46.5 to 47.5, an increase of just over 2 percent. The pattern for 2000 was quite consistent with that for 1999—a state offer of family coverage would increase the probability of insurance from 42.3 to 44.8, or by nearly 6 percent. Interestingly, our simulations for 1999 and 2000, when the program(s) were more mature, suggest that presumptive eligibility is associated with a lower probability that a child has private coverage—perhaps because presumptive eligibility is viewed by some parents as a very close substitute for coverage. Absence of a face-to-face interview may also be associated with a reduction in the probability of having coverage. Our simulated values are very close to the average values, but the average contains a high proportion of children living in states in which no face-to-face interview was required.

We also simulate the probability of having private coverage only among those eligible for public coverage, in order to obtain another view of the question of crowd-out (see Table 4b). As with the larger sample, the average probability of private coverage seems to have declined over this three-year period—from nearly 53 percent down to 41 percent! Beyond this pattern, however, there is really no evidence that the SCHIP program is responsible. First, if we compare children living in a state with an SCHIP program in 1998 to those living in a state without a program, our simulations suggest that the probability that a child had private coverage was slightly greater in states with a public program (52.4 percent and 51.6 percent, respectively.) Second, it appears that children living in states with the most

favorable policies to encourage enrollment were somewhat more likely to have private coverage than children in states with less favorable policies in 1998 and 2000. Similarly, children living in states with more generous policies also appear more likely to have private coverage than children living in states with "average eligibility policies" when we perform our simulations for each policy separately. Third, children living in a state with a Medicaid expansion program were more likely to have private coverage than those in states with other types of programs, and, in 2000, children living in states with combination programs were the only ones in our simulations (holding all other characteristics constant) who were less likely to have private coverage than the average child. The children with the lowest probability of private coverage over the three years remained quite consistently nonwhite, young, and with a parent whose schooling was limited.

C. Do Program Characteristics Influence Take-Up of SCHIP among Eligibles?

To answer this question, we limit our analysis to children eligible for public coverage (Medicaid or SCHIP) in each state. If there is no SCHIP program in the state, we include those who would be eligible according to the federal law establishing minimum eligibility requirements for other Medicaid expansions in the state.[10] For each year we run a probit estimate in which the dependent variable indicates that a child eligible for public coverage in the state had public coverage for at least part of the year (1) or did not (0). The results are shown in Appendix Table 3.

Demographic and health variables. Younger children; children of younger parents; children with fair or poor health; and children who were white, had more siblings, and did not move in the previous year were more likely to be covered by public insurance than other children. Somewhat surprisingly, eligible children with higher family incomes relative to the FPL were more likely to be covered than

[10]Minimum requirements are set forth in section 1931 of the Social Security Act, created in the PRWORA (P.L. 104-193), which sustained the entitlement to Medicaid for those who would have qualified under the thresholds and standard in place before PRWORA was enacted.

children in lower-income families. In contrast, children whose parents were married were less likely to have public coverage. Parents' education did not seem significantly related to public coverage for their children but work status did. Children with a parent who worked full time or with a second working parent were less likely to have public coverage. This may reflect both a higher probability of private coverage and the higher time cost of applying for public coverage.

Program and policy characteristics. Evidence is mixed across these three years. We emphasize the year in which the programs were most mature, 2000, in the discussion below.

Children in states with a separate program were more likely to have taken up public coverage than those in states with a Medicaid-based program, whereas children living in states with combination programs were the least likely to have taken up public coverage. Children living in states with a longer uninsured qualifying period were less likely to have public coverage.[11]

Eligible children living in states without an asset test were more likely to have public coverage, as were children living in states whose SCHIP program had been in existence for more months. Eligible children living in states with family coverage were significantly more likely to have public coverage than those living in states with a child-only plan.

Outreach activities. By 2000, none of the activities we were able to include were at all related to the probability that an eligible child was enrolled in public coverage. In the earlier years of the program, some evidence suggests that outreach played a limited role.

In 1999, when nearly all states had a program, a staffed phone line was positively associated with the probability that a child was enrolled in public coverage (somewhat surprisingly, this association appears to have been negative in 1998). Use of community organizations for outreach was negatively associated with enrollment of eligible children—though perhaps such programs were set up where

[11]This is not merely tautological, since we omit from our smaller sample of eligible children those who report having some private coverage during the year, in order to avoid mislabeling children who are not eligible on the basis of prior private coverage as eligible.

enrollment was low, as we noted earlier. Nevertheless, the consistent negative sign, statistically significant in 1998 and 1999, suggests this strategy may not increase take-up.

Last, we note that requiring parents to pay a premium was not significantly associated with take-up among eligibles. The sign is negative in both 1999 and 2000 but the variable has absolutely no significance. This suggests parents are not sensitive to the price to them of SCHIP coverage or that we are not accurately capturing the families that would be required to pay a premium.

Table 5b presents the simulated probabilities of take-up of public coverage among the SCHIP-eligible population.[12] That probability appears to have increased in 2000, going from 73 to nearly 80 percent between 1998 and 2000, with a dip in 1999.[13] It appears that children living in states with more lenient eligibility and enrollment rules are more likely to take up public coverage; as of 2000 we simulate an average probability of 82 percent if children were to live in such a state. The single policy/eligibility factor associated with the greatest probability of take-up was family coverage, with an expected probability of 82.6 percent. The nature of the program seems significantly associated with the probability of take-up—on average, eligible children living in a state with a Medicaid expansion are expected to have an 87.1 percent probability of take-up compared to a probability of "only" 76 percent for children in states with a separate program.

CONCLUSION

With the recent five-year anniversary of the inception of SCHIP and the tightening of public-sector budgets, the time has come to consider what we have learned about how state program design influenced progress toward the goals of the program. Policymakers designed SCHIP to provide states

[12]For ease of comparability, Table 5a shows the simulations for the larger population of interest, children in families below 300 percent of the FPL.

[13]Recall that we use the identical population in all simulations—those in the 2000 eligible population.

Table 5a
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics on Some Use of Public Health Insurance for 1998, 1999, 2000

	Probability of Take-Up		
Scenario	1998	1999	2000
No changes (base = variables set at mean values for 2000)	0.755	0.739	0.745
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility., no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.868	0.882	0.790
Even threshold only	0.819	0.784	0.744
Family coverage only	0.783	0.793	0.782
Presumptive eligibility only	0.796	0.804	0.765
No face-to-face interview only	0.756	0.741	0.743
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.744	0.749	0.715
Current employment with all FT workers at 100+ employee firm	0.767	0.752	0.744
Other Demographics			
Nonwhite child	0.769	0.714	0.762
2-year-old child	0.781	0.772	0.795
10-year-old child	0.745	0.725	0.723
16-year-old child	0.716	0.687	0.663
Parent with some college	0.752	0.741	0.771

Table 5b
Simulated Effects of State Policy, Parents' Employment, and Selected Demographics among SCHIP Eligibles on Some Use of Public Health Insurance for 1998, 1999, 2000

	Probability of Take-Up		
Scenario	1998	1999	2000
No changes (base = variables set at mean values for 2000, SCHIP elig set to 1)	0.730	0.701	0.794
State Policy Variables			
State has even threshold, family coverage, presumptive eligibility, no face-to-face interview, 6 months without private health insurance for SCHIP eligibility, no asset test	0.843	0.854	0.820
Even threshold only	0.797	0.750	0.793
Family coverage only	0.759	0.760	0.826
Presumptive eligibility only	0.772	0.772	0.812
No face-to-face interview only	0.730	0.704	0.793
SCHIP Medicaid Expansion	0.697	0.715	0.871
Separate SCHIP program	0.725	0.705	0.762
Combination SCHIP program	0.759	0.675	0.804
Employment			
All employed FT with working spouse (if married); work is at firm with 100+ employees	0.717	0.712	0.767
Current employment with all FT workers at 100+ employee firm	0.742	0.715	0.793
Other Demographics			
Nonwhite child	0.744	0.675	0.809
2-year-old child	0.757	0.737	0.838
10-year-old child	0.718	0.686	0.775
16-year-old child	0.688	0.646	0.720
Parent with some college	0.721	0.698	0.818

Simulations are calculated as follows: Means for all variables from the 2000 sample are multiplied by the coefficients from the model for each individual year. The sum of these products for a given year is then run through the cumulative normal distribution to get the base probability for that year. Simulations are then made by varying the mean value for a variable or variables to match the assumptions for a given scenario.

with the flexibility to meet needs specific to their uninsured populations. This encouragement to experiment with program parameters allows us to both evaluate the ways in which different practices affect use of Medicaid and SCHIP and identify practices that might further decrease the number of uninsured children if adopted more broadly. In this paper, we provide a glimpse of some of the more promising outcomes of these differences in state policy.

Our research identifies several program elements that are well aligned with the goals of reducing the number of children without health insurance and increasing the rate of take-up among those eligible for Medicaid or SCHIP. Some aspects, such as eliminating tests on assets or making phone lines available for those with questions about eligibility or enrollment, can be provided at a modest cost. Other program elements, such as expanding coverage to adults in low-income families, require a larger commitment from states, but they meet an additional policy goal of reducing the number of uninsured adults. Our finding that take-up increases as programs become more mature, perhaps as word of the benefits of participation spreads among eligible populations, is encouraging, given that many eligible children have yet to be covered by Medicaid or SCHIP.

We estimate that making sets of policy changes can affect the probability of take-up, but that in certain cases a single, well-targeted policy may be nearly as effective. In the early years, for example, it appears that presumptive eligibility was an effective way to increase the probability that a child obtained insurance coverage.

Although the probability of having private coverage among those eligible for Medicaid or SCHIP decreased between 1998 and 2000, we do not find any indication that SCHIP prompted such a decrease—our simulations suggest that children living in states with relatively generous enrollment policies are more likely to be covered by private insurance. These findings suggest the SCHIP program has a modest effect, if any, on take-up of private insurance. And they are consistent with an increase in private insurance coverage tied to the tight labor market of that period.

Many of our research findings complement previous investigative attempts to understand state efforts to increase take-up by addressing barriers to application, enrollment, and continued participation (see Cohen, Ross, and Cox, 2002). In the five years since SCHIP was signed into law, states have made substantial progress in expanding eligibility and reducing the disincentives to take-up. The very flexibility in program design granted to states allows us to identify SCHIP program details that are well suited for more widespread use. Many of these details can be implemented with relative ease and others benefit other needy populations, such as uninsured adults, suggesting that states still have much to gain from the next phase of the SCHIP program.

APPENDIX A
State-Level Medicaid and SCHIP Program Data Sources and Methods

Because there is no single source of all relevant Medicaid and SCHIP program characteristics and income thresholds by state, this study uses an array of sources to form a complete picture of each state's Medicaid and CHIP programs. We needed to collect information on eligibility threshold levels for the different age groups, program start dates, program funding source (Title XIX or Title XXI), and other program characteristics of interest. Our starting point was the SCHIP database provided by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) in the U.S. Department of Health and Human Services.[14] This database by itself, however, does not include sufficient detail on thresholds applicable to different age groups, coverage under Medicaid, and other SCHIP and Medicaid characteristics.

The American Academy of Pediatrics (AAP) maintains one of the most complete records of threshold levels (for both Medicaid and SCHIP) and updates these levels annually. AAP collected information yearly on state program thresholds for all relevant child age groups, as well as the source of program funding, Title XIX or Title XXI (Tang et al., 1999, 2000; Yudkowsky et al., 1998).[15] Their distinction between Title XIX and Title XXI funding is especially useful because it allows us to keep track of how state spending on public health insurance changed as a result of the availability of SCHIP funds, as opposed to other Medicaid expansions. Other researchers may also find it to be a useful source for examining baseline coverage in the pre-SCHIP period.

The AAP profiles report on state thresholds in the middle of each year (between June and August). This was occasionally problematic for our analysis, because a state might have a CHIP program

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[14]This database is available via the World Wide Web at <http://aspe.hhs.gov/health/schip2/>.

[15]The state descriptions for 1998 can be found at <http://www.aap.org/research/pdf98/XX.pdf>, where XX is the state's two-letter postal abbreviation. Similarly, 1999 information can be found at <http://www.aap.org/research/pdf97/XX.pdf>, and 2000 information at <http://www.aap.org/research/pdf98/XX.pdf>.

that started after the AAP collection took place (AAP reported states without active CHIP programs as having "potentially federally mandated thresholds"). When that occurred, our procedure was to check the ASPE database for the start date of the SCHIP program. If there was no program started in that year, we simply recorded the Medicaid information given in the AAP profile for the year of interest. If a program started in that year, we went to the AAP profile for the following year and used the threshold information given there. In doing so, we made the conservative assumption that states would not have changed their CHIP program twice within the span of 12 months.

Nonthreshold information such as Medicaid and SCHIP countable income rules for children was adapted from Kaiser Family Foundation publications (Ross and Cox, 2000); countable income rules for adults are available from publications of the Center for Law and Social Policy and the Center on Budget and Policy Priorities (Broaddus et al., 2002; CLASP/CBPP, 2000). Information on public health insurance eligibility thresholds applicable to families was obtained from Families USA (2000) and Dubay and Kenney (2001).

We obtained state-level data on Medicaid and SCHIP program parameters from the National Governors Association and Kaiser (NGA, 1999, 2001; Ross and Cox, 2000). In particular, NGA (1999) provides information on SCHIP phone hotlines, NGA (2001) provides information on the use of asset tests, community outreach organizations, and family-friendly Web sites, and Ross and Cox (2000) provides information on whether face-to-face interviews are required and presumptive eligibility. The SCHIP program type and the minimum period of no private health insurance required for SCHIP eligibility were obtained from the ASPE SCHIP database.

We obtained unemployment data from the Local Area Unemployment Statistics (LAUS) program, which is administered by the Bureau of Labor Statistics in the U.S. Department of Labor. We applied county-level unemployment rates for observations for which the county is reported in the CPS

and use state-level unemployment rates for all other cases. Estimates of the proportion of children at or below 200 percent of poverty were obtained from the U.S. Census Bureau (2000).

Individual-level data were obtained from the 1999, 2000, and 2001 Current Population Survey, Annual Demographic Supplement (March). Program eligibility was determined by applying state-level, age-specific income thresholds to family income after the appropriate countable income rules were applied.

Because the CPS lacks information on assets, we could not apply asset tests to individuals in states that require such tests. Also, the CPS provides only annual family income, but monthly family income may vary.[16] Thus children from families that had low income in some months but relatively high income in other months may have been eligible for Medicaid or SCHIP at some point in the year, despite a high average monthly income as calculated from a single annual figure. As a result, some children whom our process deems ineligible were reported in the survey to be covered at some point in the year. In these cases, we changed our eligibility measure to reflect what we believe to be the more accurate indicator—the CPS report. We assigned SCHIP eligibility in all such cases to reflect the fact that SCHIP covers the upper end of the income range, the area into which most families with income that we measure as being too high to meet thresholds would fall. In each year, approximately 5 percent of the sample used in our models had eligibility assigned using this process.

We exclude several groups of children from our analysis. First, children receiving Supplemental Security Income (SSI) and foster children are excluded, as we expect extremely high take-up rates among these groups. We also exclude married children and child parents.

Observations from Tennessee are not included in our analysis. The TennCare program has no upper limit on public health insurance eligibility so long as a child does not have access to private

[16]See Czjaka and Kimball (1999) for an excellent discussion of the strengths and weaknesses of various surveys for determining program eligibility.

insurance. Because the CPS does not provide information on access to health insurance among those not enrolled in private insurance, we could not accurately define eligibility for all children in this state.

Appendix Table 1
Model of Being Uninsured All Year among Eligible Children from Families (<300% FPL)

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Intercept	-0.221 (0.163)	-0.140 (0.353)	-0.531 (0.003)
Parent's age	0.011*** (0.0001)	0.004*** (0.007)	0.008*** (0.0001)
Child's age	0.008** (0.0151)	0.012*** (0.0001)	0.015*** (0.0001)
Child has fair or poor health	-0.313*** (0.0001)	-0.178*** (0.008)	-0.380*** (0.0001)
Child is nonwhite	0.110*** (0.000)	0.234*** (0.000)	0.067** (0.033)
Child is Hispanic	0.297*** (0.000)	0.450*** (0.0001)	0.378*** (0.0001)
Family lives in MSA	0.042 (0.212)	0.069** (0.030)	0.185*** (0.000)
Male child	0.014 (0.588)	-0.014 (0.548)	0.045* (0.074)
Most educated parent has HS diploma	-0.208*** (0.000)	-0.200*** (0.0001)	-0.170*** (0.0001)
Most educated parent has some college	-0.264*** (0.000)	-0.237*** (0.0001)	-0.391*** (0.0001)
Family moved to the state within the last year	0.147** (0.018)	0.316*** (0.0001)	0.197*** (0.002)
No. siblings	-0.076*** (0.0001)	-0.068*** (0.0001)	-0.014 (0.157)
Child is eligible for SCHIP	-0.116 (0.1697)	0.257*** (0.0002)	-0.024 (0.768)
Poverty ratio	-0.513*** (0.0001)	-0.332*** (0.0001)	-0.275*** (0.0001)
Received welfare benefits at some time in last year	-2.101*** (0.0001)	-1.805*** (0.0001)	-1.872*** (0.0001)
Parent has a work limitation	-0.348*** (0.0001)	-0.140*** (0.0010)	-0.215*** (0.0001)
Married parents	0.008 (0.800)	-0.001 (0.982)	0.154*** (0.0001)
Primary worker with some full-time work	0.206*** (0.0001)	0.158*** (0.001)	0.123** (0.014)
Primary worker with some part-time work	0.081 (0.120)	0.046 (0.370)	0.034 (0.541)
Secondary worker with any work	0.013 (0.722)	0.025 (0.456)	0.010 (0.772)

(table continues)

Appendix Table 1, continued

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Some full-time work at a firm with 100 or more employees	-0.352*** (0.0001)	-0.374*** (0.0001)	-0.175*** (0.0001)
SCHIP separate program * SCHIP eligible	-0.028 (0.705)	-0.136** (0.026)	-0.348*** (0.0001)
SCHIP combination program * SCHIP eligible	0.080 (0.243)	-0.052 (0.391)	0.013 (0.828)
No SCHIP program in effect	-0.426*** (0.0001)	0.136 (0.272)	-- --
MA threshold equal across age groups.	-0.125* (0.099)	0.146** (0.029)	-0.029 (0.715)
State covers families with income < 150% FPL	-0.140 (0.100)	-0.136* (0.053)	-0.134** (0.011)
State uses presumptive eligibility	-0.200*** (0.0001)	-0.173*** (0.0001)	-0.018 (0.662)
No face-to-face interview required	-0.054 (0.571)	-0.051 (0.521)	0.119 (0.150)
Parents must pay premiums for SCHIP * SCHIP Eligible	-0.059 (0.281)	0.125** (0.019)	0.025 (0.630)
No. months with no private insurance required * SCHIP eligible	0.000 (0.979)	-0.003 (0.739)	0.007 (0.425)
No asset test	0.088 (0.330)	-0.170* (0.078)	-0.208** (0.046)
Family-oriented website * SCHIP eligible	0.036 (0.615)	-0.162*** (0.005)	-0.106 (0.123)
Phone line staff will answer questions about applications * SCHIP eligible	0.060 (0.295)	-0.172*** (0.0004)	-0.088* (0.083)
Community organizations used for outreach * SCHIP eligible	0.241*** (0.0001)	0.086* (0.0736)	-0.021 (0.673)
No. months SCHIP program has been in operation	-0.008** (0.033)	-0.007** (0.047)	-0.006* (0.064)
Local or state unemployment rate	-0.018*** (0.0006)	-0.010** (0.0370)	-0.037*** (0.0001)
N =	14,797	16,203	15,680

* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01

Appendix Table 2

Private Health Insurance Take-Up among Eligible Children from Families (<300% FPL)

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Intercept	-1.012 (0.000)	-1.040 (0.000)	-1.000 (0.000)
Parent's age	0.003* (0.0700)	0.007*** (0.0001)	0.002 (0.225)
Child's age	0.004 (0.1444)	0.003 (0.337)	0.011*** (0.0001)
Child has fair or poor health	-0.369*** (0.0001)	-0.215*** (0.0003)	-0.050 (0.407)
Child is nonwhite	-0.275*** (0.000)	-0.276*** (0.000)	-0.219*** (0.000)
Child is Hispanic	-0.367*** (0.000)	-0.345*** (0.0001)	-0.353*** (0.0001)
Family lives in MSA	-0.068** (0.023)	0.012 (0.661)	0.012 (0.684)
Male child	-0.036 (0.118)	-0.035 (0.110)	-0.039* (0.077)
Most educated parent has HS diploma	0.341*** (0.0001)	0.350*** (0.0001)	0.368*** (0.0001)
Most educated parent has some college	0.454*** (0.0001)	0.441*** (0.0001)	0.573*** (0.0001)
Family moved to the state within the last year	-0.146** (0.011)	-0.076 (0.126)	-0.025 (0.657)
No. siblings	0.043*** (0.0001)	0.023*** (0.0091)	-0.026*** (0.0025)
Child is eligible for SCHIP	-0.174** (0.011)	-0.285*** (0.0001)	-0.491*** (0.0001)
Poverty ratio	0.355*** (0.0001)	0.348*** (0.0001)	0.408*** (0.000)
Received welfare benefits at some time in last year	-0.714*** (0.0001)	-0.651*** (0.0001)	-0.721*** (0.0001)
Parent has a work limitation	-0.248*** (0.0001)	-0.243*** (0.0001)	-0.218*** (0.0001)
Married parents	0.049 (0.105)	0.096*** (0.001)	-0.133*** (0.0001)
Primary worker with some full-time work	0.226*** (0.000)	0.112*** (0.010)	0.189*** (0.0001)
Primary worker with some part-time work	0.206*** (0.000)	0.053 (0.284)	0.100** (0.045)

(table continues)

Appendix Table 2, continued

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Secondary worker with any work	0.129*** (0.000)	0.019 (0.530)	0.093*** (0.002)
Some full-time work at a firm with 100 or more employees	0.390*** (0.0001)	0.403*** (0.0001)	0.337*** (0.0001)
SCHIP separate program * SCHIP eligible	0.146** (0.014)	0.113** (0.027)	0.228*** (0.0001)
SCHIP combination program * SCHIP eligible	-0.034 (0.553)	0.037 (0.461)	0.154*** (0.001)
No SCHIP program in effect	0.023 (0.729)	-0.147 (0.185)	-- --
MA threshold equal across age groups.	-0.041 (0.526)	-0.044 (0.460)	-0.039 (0.546)
State covers families with income < 150% fpl	0.183*** (0.009)	0.030 (0.618)	0.071*** (0.009)
State uses presumptive eligibility	0.106*** (0.003)	-0.018 (0.606)	-0.062* (0.080)
No face-to-face interview required	-0.126 (0.109)	-0.136* (0.052)	-0.185*** (0.005)
Parents must pay premiums for SCHIP * SCHIP eligible	0.019 (0.678)	-0.105** (0.017)	-0.100** (0.011)
No. months with no private insurance required * SCHIP eligible	0.010 (0.268)	0.007 (0.332)	0.019*** (0.008)
No asset test	-0.008 (0.914)	0.001 (0.992)	0.036 (0.700)
Family-oriented website * SCHIP eligible	-0.013 (0.827)	0.312*** (0.0001)	0.281*** (0.0001)
Phone line staff will answer questions about applications * SCHIP eligible	0.245*** (0.000)	0.143*** (0.001)	0.092** (0.020)
Community organizations used for outreach * SCHIP eligible	0.085* (0.064)	0.140*** (0.001)	0.036 (0.378)
No. months SCHIP program has been in operation	0.007* (0.070)	0.002 (0.615)	0.002 (0.361)
Local or state unemployment rate	-0.026*** (0.0001)	-0.030*** (0.0001)	-0.015*** (0.007)
N =	14,797	16,203	15,680

* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01

Appendix Table 3

Public Health Insurance Take-Up among Eligible Children from Families (<300% FPL) without Any Private Health Insurance Use

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Intercept	0.255 (0.183)	-0.154 (0.394)	0.472** (0.024)
Parent's age	-0.018*** (0.0001)	-0.011*** (0.0001)	-0.012*** (0.0001)
Child's age	-0.015*** (0.0001)	-0.018*** (0.0001)	-0.029*** (0.0001)
Child has fair or poor health	0.576*** (0.0001)	0.320*** (0.0001)	0.517*** (0.0001)
Child is nonwhite	0.067* (0.083)	-0.109*** (0.003)	0.082** (0.033)
Child is Hispanic	-0.119*** (0.005)	-0.333*** (0.0001)	-0.234*** (0.0001)
Family lives in MSA	-0.012 (0.786)	-0.116*** (0.003)	-0.253*** (0.0001)
Male child	0.007 (0.822)	0.058** (0.048)	-0.025 (0.420)
Most educated parent has HS diploma	0.046 (0.248)	0.044 (0.242)	-0.010 (0.807)
Most educated parent has some college	-0.014 (0.742)	0.012 (0.760)	0.120*** (0.005)
Family moved to the state within the last year	-0.193** (0.011)	-0.364*** (0.000)	-0.269*** (0.0003)
No. siblings	0.073*** (0.0001)	0.073*** (0.0001)	0.030*** (0.0084)
Child is eligible for SCHIP	0.328*** (0.002)	-0.160* (0.071)	0.437*** (0.0001)
Poverty ratio	0.451*** (0.0001)	0.216*** (0.0001)	0.032 (0.369)
Received welfare benefits at some time in last year	2.422*** (0.0001)	2.065*** (0.0001)	2.121*** (0.0001)
Parent has a work limitation	0.673*** (0.0001)	0.377*** (0.0001)	0.429*** (0.0001)
Married parents	-0.076* (0.061)	-0.078** (0.046)	-0.106** (0.010)
Primary worker with some full-time work	-0.306*** (0.0001)	-0.165*** (0.001)	-0.146*** (0.008)

(table continues)

Appendix Table 3, continued

Variable	1998 Coefficient (p-value)	1999 Coefficient (p-value)	2000 Coefficient (p-value)
Primary worker with some part-time work	-0.105*	-0.016	0.012
	(0.076)	(0.775)	(0.842)
Secondary worker with any work	-0.160***	-0.085*	-0.109**
	(0.001)	(0.054)	(0.015)
Some full-time work at a firm with 100 or more employees	0.176***	0.198***	-0.017
	(0.0001)	(0.0001)	(0.682)
SCHIP separate program * SCHIP eligible	-0.187*	0.113	0.275***
	(0.067)	(0.178)	(0.002)
SCHIP combination program * SCHIP eligible	-0.105	0.086	-0.145*
	(0.271)	(0.288)	(0.063)
No SCHIP program in effect	0.487***	-0.111	--
	(0.0001)	(0.454)	--
MA threshold equal across age groups.	0.227**	0.153*	-0.002
	(0.015)	(0.070)	(0.982)
State covers families with income < 150% fpl	0.099	0.196**	0.130**
	(0.367)	(0.026)	(0.049)
State uses presumptive eligibility	0.159***	0.254***	0.076
	(0.002)	(0.0001)	(0.138)
No face-to-face interview required	0.049	0.237**	-0.146
	(0.683)	(0.021)	(0.155)
Parents must pay premiums for SCHIP * SCHIP eligible	0.141	-0.116	-0.073
	(0.460)	(0.115)	(0.265)
Number of months with no private insurance required * SCHIP eligible	-0.015	-0.009	-0.026**
	(0.303)	(0.464)	(0.015)
No asset test	-0.192*	0.242**	0.231**
	(0.076)	(0.037)	(0.044)
Family oriented website * SCHIP eligible	0.031	-0.032	-0.054
	(0.750)	(0.661)	(0.514)
Phone line staff will answer questions about applications * SCHIP eligible	-0.410***	0.140**	0.049
	(0.0001)	(0.026)	(0.452)
Community organizations used for outreach * SCHIP eligible	-0.505***	-0.256***	-0.045
	(0.0001)	(0.0001)	(0.469)
No. months SCHIP program has been in operation	0.008	0.007	0.008**
	(0.105)	(0.102)	(0.039)
Local or state unemployment rate	0.036***	0.030***	0.053***
	(0.0001)	(0.0001)	(0.0001)
N =	8,953	9,377	8,775

* p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01

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